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New records of Pauropoda (Myriapoda) with descriptions of new species from Rwanda and Réunion (Pauropoda and Symphyla of the Geneva Museum XII)

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New records of Pauropoda (Myriapoda) with descriptions of new species from Rwanda and Réunion (Pauropoda and Symphyla of the Geneva Museum XII). - A collection of 751 Pauropoda (Myriapoda) specimens has been studied. Three species are new to science and are described: *Allopauropus afer* sp. n. and *Samarangopus rwandaensis* sp. n. from Rwanda and *Sphaeropauropus reunionensis* sp. n. from Réunion and Sri Lanka. Thirty-five more species have been recognised and the species lists for many countries have been lengthened. The following species are here recorded for the first time from: Switzerland, 3 species [*Stylopauropus neglectus* Remy, *Acopauropus consobrinus* (Remy), *Trachypauropus cordatus* (Scheller)]; Greece, 3 species (*Allopauropus helophorus* Remy, *Brachypauropus superbus* Hansen, *Acopauropus attemsi* Hasenhütl); Slovenia, 2 species (*Pauropus bagnalli* Remy, *Stylopauropus limitaneus* Remy); the Maltese Islands, 3 species [*Allopauropus danicus* (Hansen), *A. gracilis* (Hansen), *A. helveticus* (Hansen)]; Turkey, 4 species [*Acopauropus hastatus* (Attems), *A. tetrastichus* Scheller, *Trachypauropus cordatus* (Scheller), *T. glomerioides* Tömösváry]; Réunion, 1 species (*Sphaeropauropus reunionensis* sp. n.); Sri Lanka, 2 species, (*Sphaeropauropus nepalensis* Scheller, *S. reunionensis* sp. n.); Malaysia, 1 species (*Allopauropus rastifer* Remy); Indonesia, 1 species [*Allopauropus danicus* (Hansen)]; Rwanda, 2 species (*Allopauropus afer* sp. n., *Samarangopus rwandaensis* sp. n.) and Argentina, 1 species (*Stylopauropoides subantarcticus* Scheller).

Key-words: Europe - Asia - Africa - Rwanda - Réunion - South America - Pauropoda - taxonomy - biogeography - soil zoology.

INTRODUCTION

The study of the taxonomy of Pauropoda was long limited to manually collected and therefore sparse material. During later years automatical extraction methods in combination with skilful sorting out assistants, have been of great importance for the

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studies in several pedozoological fields, among them the biodiversity and distribution of Pauropoda.

Thanks to Dr Bernd Hauser, it has been possible to study valuable pauropods from the collections of the Natural History Museum, Geneva. A scattered material of various sizes from many countries and collected mainly by means of automatical extraction methods, a total of 751 specimens, was available for examination. Dr Hauser himself collected most of these specimens and his great faculty in finding valuable collecting sites has resulted in a rich material. Several other soil zoologists have contributed as well: Drs Villy Aellen†, Claude Besuchet, Herman Gisin†, Ivan Löbl, Volker Mahnert, Paul Schauenberg, who all have belonged to or are belonging to the staff of the Museum in Geneva. Moreover, some collectors outside the Museum, but in close contact with it, have deposited material studied here. They are: Dr Romano Dallai (Siena), Dr Egon Horak (Zürich), Dr Pierre Strinati (Cologny, Geneva), Dr Konrad Thaler (Innsbruck), and Dr Philippe Werner (Ollon-Chemignon).

Three species are new to science and are described. They are *Allopauropus afer* sp. n. and *Samarangopus rwandaensis* sp. n. from Rwanda and *Sphaeropauropus reunionensis* sp. n. from Réunion and Sri Lanka.

Thirty-five more species have been recognised and the lists of species of many countries have been lengthened. Several species are here added for the first time to the lists of the following countries: Switzerland, 3 species [*Stylopauropus neglectus* Remy, *Acopauropus consobrinus* Remy, *Trachypauropus cordatus* (Scheller)]; Greece, 3 species (*Allopauropus helophorus* Remy, *Brachypauropus superbus* Hansen, *Acopauropus attemsi* Hasenhütl); Slovenia, 2 species (*Pauropus bagnalli* Remy, *Stylopauropus limitaneus* Remy); the Maltese Islands, 3 species [*Allopauropus danicus* (Hansen), *A. gracilis* (Hansen), *A. helveticus* (Hansen)]; Turkey 4 species [*Acopauropus hastatus* (Attems), *A. tetrastichus* (Scheller), *Trachypauropus cordatus* (Scheller), *T. glomerioides* Tömösváry]; Réunion, 1 species (*Sphaeropauropus reunionensis* sp. n.); Sri Lanka, 2 species, (*Sphaeropauropus nepalensis* Scheller, *S. reunionensis* sp. n.); Malaysia, 1 species (*Allopauropus rastifer* Remy); Indonesia, 1 species [*Allopauropus danicus* (Hansen)]; Rwanda, 2 species (*Allopauropus afer* sp. n., *Samarangopus rwandaensis* sp. n.) and Argentina, 1 species (*Stylopauropoides subantarcticus* Scheller).

All the material, preserved in alcohol (with one single exception), is deposited in the collections of the Department of Arthropods and Entomology I, Natural History Museum of Geneva.

SYSTEMATICS

Pauropodidae

Genus ***Allopauropus*** Silvestri, 1902
Subgenus ***Allopauropus*** s. str.

1. ***Allopauropus* (*A.*) *brevisetus*** Silvestri
Allopauropus brevisetus Silvestri, 1902: fasc. 95, no. 12.

Material examined. Croatia, Velebit Mountains, at road between Karlobag and Gospi3, on the Gospi3 side of the pass, oak forest, sifting, Berlese extraction, 1 juv. 5[1], 2.X.1970 (Loc. Ju-70/1, leg. B. Hauser).

Total number. 1 specimen.

General distribution. The main range covers southern Europe from France to Romania, Bulgaria and Greece. Known also from Great Britain, Switzerland, Austria and the USA.

2. ***Allopauropus (A.) danicus*** (Hansen)

Pauropus danicus Hansen, 1902: p. 376-378, pl. III, fig. 4.

Material examined. Maltese islands, Malta, Dingli, Buskett Forest, soil sample, 1 ad. 9(♀), 1 subad. 8(♀), 2.V.1976 (Leg. V. Aellen & P. Strinati).

Greece, Peloponnesus, Achaia, Erymanthos Massif, above Kalusion, alt. 980 m, under *Abies cephalonica* and *Quercus coccifera*, soil sample, Berlese extraction, 2 ad. 9(♀), 19 subad. 8(8♂, 10♀,1 sex?), 4 juv. 6, 1 juv. 5, 1.V.1980 (Loc. Sam-80/18, leg. B. Hauser); Messenia, near the road Areopolis - Kalamata, before Pygi, alt. 230 m, under *Quercus coccifera*, near a small stream, soil sample, Berlese extraction, 1 ad. 9(♀), 4 subad. 8(1♂,3♀), 2 juv. 6, 2 juv. 5, 18.V.1981 (Loc. Art-81/15, leg. B. Hauser). - Attica, Mount Hymette, near Markopoulon, close to the cave "Vavrona 2", under *Pistacia lentiscus*, soil sample, Berlese extraction, alt. 30 m, 5 juv. 6, 1 juv. 5, 20.III.1982 (Loc. Att-82/26, leg. B. Hauser). - Southern Island Arc, Karpathos, Lastos Massif, near the road Aperi – Spoa, alt. 430 m, under *Pinus brutia*, soil sample, Berlese extraction, 1 ad. 9(♂), 2 subad. 8(♀), 1 juv. 6, 10.III.1979 (Loc. Kar-79/8b, leg. B. Hauser).

Austria, Innsbruck, Martinswand, needle litter under pines, soil sample, Berlese extraction, 15 ad. 9(10♂, 5♀), 3 subad. 8(1♂, 2♀), IV-V.1964 (Leg. K. Thaler); ibidem, 5 ad. 9(1♂, 4♀), 2 subad. 8(♂), 17.V.1969 (Loc. I-69/1, leg. B. Hauser) and 2 ad. 9(♂), 29.IV.1969 (Loc. I-69/5, leg. K. Thaler).

Morocco, Rif Atlas, El-Gouzat, alt. 1050 m, soil sample under evergreen oaks, Berlese extraction, 2 ad. 9(♂), 1 juv. 6, 3 juv. 5, 2.VI.1978 (Loc. Mar-78/12, leg. B. Hauser); Smila, alt. 630 m, soil sample under *Pinus radiata,* Berlese extraction, 1 subad. 8(♀), 2.VI.1978 (Loc. Mar-78/13, leg. B. Hauser).

Indonesia, East Java, Baluran Game Reserve, dry forest, alt. 100 m, in lava soil, 2 juv. 6, 4.VII.1973 (Loc. As-73/3, leg. P. Schauenberg).

Total number. 83 specimens.

General distribution. A wide range species known from most countries in Europe, from North and East Africa, South Asia and the Americas.

Remarks. A. danicus is here reported for the first time from the Maltese Islands and Indonesia.

3. ***Allopauropus (A.) maroccanus*** Remy & Moyne

Allopauropus (A.) maroccanus Remy & Moyne, 1960: p. 73-76, fig. 1.

Material examined. Morocco, Moyen Atlas, Tazzeka District, Bab-Azhar, under cork oaks, soil sample, Berlese extraction, 7 ad. 9(6♂, 1♀), 2 subad. 8(♀), 3 juv. 5, 1.VI.1978 (Loc. Mar-78/9, leg. B. Hauser).

Total number. 12 specimens.

General distribution. Known only from Morocco and Sri Lanka.

Taxonomical remarks. After having been able to study specimens from the type series (Morocco, Midelt, alt. 1500 m), it is evident that the temporal organs of this

[1] Abbreviations: ad. ..., subad. ... and juv. ... = an adult, a subadult or a juvenile specimen with the number of pairs of legs indicated.

species are provided with large posterior pistils of the shape illustrated by Scheller (1970) in the description of *A.* (*A.*) prope *maroccanus* from Sri Lanka (Southern Province, Hikkaduwa and Deniyaya). These specimens have to be referred to *A.* (*A.*) *maroccanus* Remy & Moyne. The specimens reported above from Bab-Azhar also correspond with Remy & Moyne's types.

4. ***Allopauropus* (*A.*) *afer*** sp. n. Figs 1-13

Type material. **Holotype**: ad. 9(♀), RWANDA, Rangiro, alt. 1800 m, sifting in forest, 6.VI-II.1973 (Loc. Rwa-73/8, leg. P.Werner). **Paratype**: 1 ad. 9(♂), same locality and date (Leg. P. Werner).

Total number. 2 specimens.

Diagnosis. *A.* (*A.*) *afer* sp. n. has many characters in common with *A.* (*A.*) *jeannelli* Remy from Mount Elgon (Remy, 1935b) but is distinguished from it by the shape of the lobes and the appendages of the anal plate (lateral lobes somewhat curved and blunt in *A.* (*A.*) *afer* sp. n., straight and pointed in *A.* (*A.*) *jeanelli* Remy; posteromedian lobe large and linguiform, not short, triangular, pointed). *A.* (*A.*) *ruwenzoriensis* Remy from Mount Ruwenzori (Remy, 1960) is similar in the same way. Good distinguishing characters are e.g. the shape of the posterior part of the anal plate [linguiform in *A.* (*A.*) *afer* sp. n., cleft deeply in *A.* (*A.*) *ruwenzoriensis* Remy], the pubescence of the T_3 (distal part with branched hairs, not naked and annulate) and the shape of the antennal globulus (almost spherical with narrow stalk, not pear-shaped with thicker stalk). The new species may also have distant relationships with *A.* (*A.*) *simulator* Remy from south-western France (Remy, 1947a) because there are similarities in the general plan of the anal plate and the styli, but they are easy to distinguish (e.g. pygidial setae a_1 very short in *A.* (*A.*) *afer* sp. n., very long in *A.* (*A.*) *simulator* Remy; appendages of the anal plate long, stalked and foliform, not short and clavate without stalk).

Etymology. From Latin afer = African.

DESCRIPTION

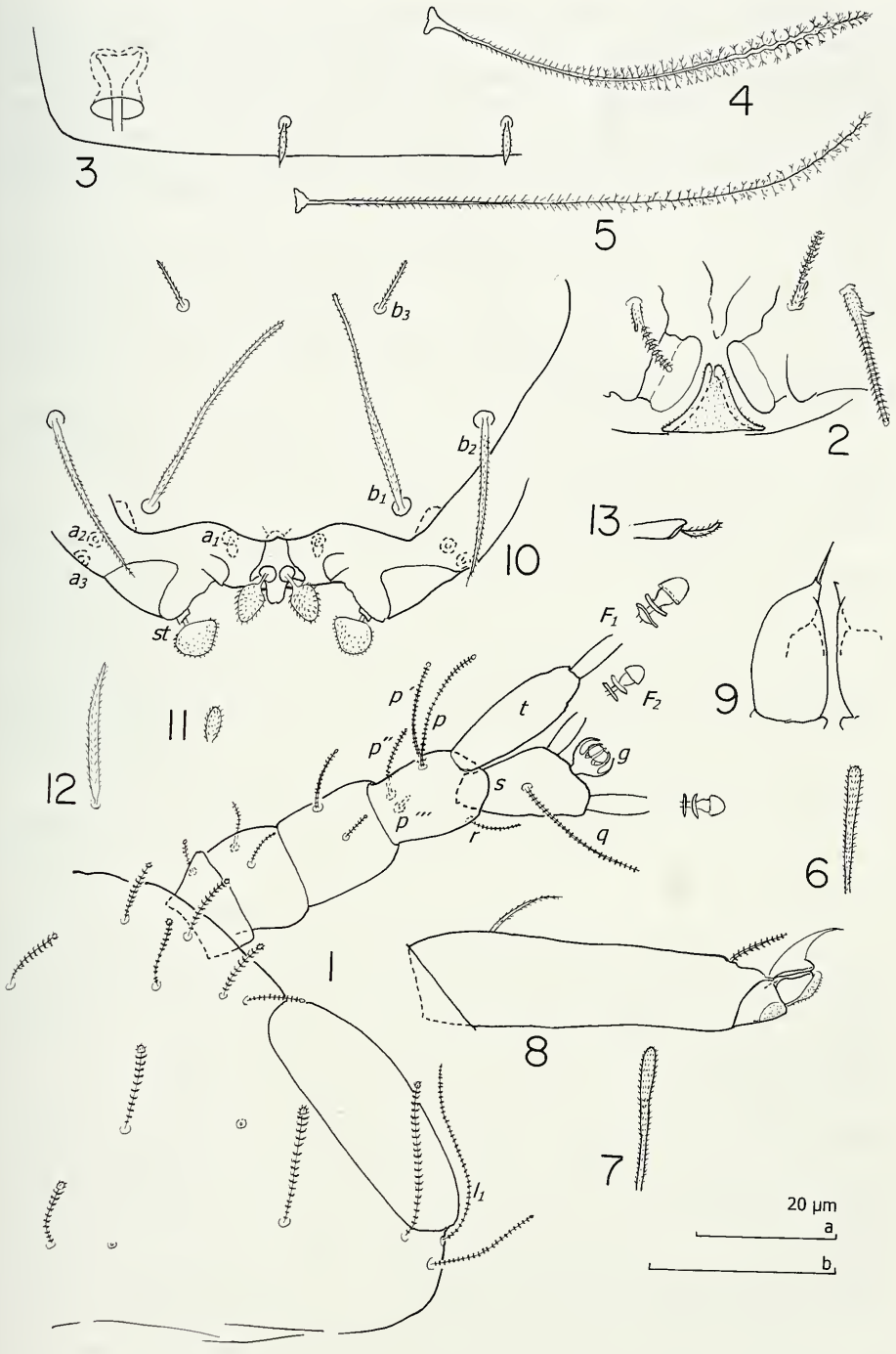
Length. 0.90(0.92)[2] mm.

Head. Tergal setae subcylindrical, annulate, blunt. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 11$; 2nd row: $a_1 = 11$, $a_2 = 11(12)$, $a_3 = 10$; 3rd row: $a_1 = 13(14)$, $a_2 =$?(20); 4th row: $a_1 = 9(10)$, $a_2 = 19$, $a_3 = 27$, $a_4 = 18$; lateral group setae: $l_1 = 25$, $l_2 =$?, $l_3 =$?. The ratio a_1/a_1- a_1 in 1st row 0.8, in 2nd row 0.5, in 3rd row (0.9)1.1 and in 4th row 1.0. Temporal organs ovoid, in tergal view about as long as their shortest distance apart. Head cuticle glabrous.

[2] Measurements taken from adult paratypes are given in brackets.

FIGS 1-13

Allopauropus (A.) afer sp. n., holotype, ad. 9(♀). 1, head, median and right part, and right antenna, tergal view; 2, collum segment, median and left part, sternal view; 3, tergite VI, posteromedian and left posterior part; 4, T_3; 5, T_4; 6, seta on coxa of leg 9; 7, seta on trochanter of leg 9; 8, tarsus of leg 9; 9, left genital papilla, anterior view; 10, pygidium, median and left part, sternal view; 11, pygidial seta a_1; 12, pygidial seta a_2; 13, anal plate, lateral view. Pubescence only partly drawn in Fig. 8. Scale a: Figs 2-7, 9; b: Figs 1, 8, 10-13.


3
4
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6
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20 µm
a
b

Antennae. Segment 4 with at least 5 cylindrical striate-annulate setae, *r* thinnest. Relative lengths of setae: $p = 100$, $p' = 82$, $p'' = 59$, $p''' = 14$, $r = 44$. Tergal seta *p* 0.8 of the length of tergal branch *t*. The latter fusiform, (2.8)3.2 times as long as its greatest diameter and 1.1 times as long as sternal branch *s* which is 1.9(2.2) times as long as its greatest diameter and with its anterodistal corner distinctly truncate. Seta *q* as tergal-anterior setae of 4th segment but somewhat thinner, as long as *s*. Relative lengths of flagella (with base segments included) and base segments: $F_1 = 100$, $bs_1 = (10)11$; $F_2 = (43)46$, $bs_2 = 8$; $F_3 = 115$, $bs_3 = 9(10)$. F_2 thinner than F_1 and F_3; F_1 4.1(4.3) times as long as *t*, F_2 and F_3 1.8 and 5.2 times as long as *s* respectively. Distal calyces hemispherical, glabrous, distal part of flagella axes widened only between calyx and first lamella. Globulus *g* 1.1 times as wide as long and with thin and very short, almost cylindrical stalk, ≈ 8 bracts and flattened capsule; diameter of *g* as long as greatest diameter of *t*. Antennae glabrous.

Trunk. Setae of collum segment furcate, primary branch cylindrical, annulate, blunt; secondary branch rudimentary, blunt, glabrous. Sublateral setae (1.6)1.7 times as long as submedian ones; process cleft anteriorly and with very short pubescence; appendages glabrous, subcylindrical, with wide caps.

Setae on tergites of about the same length, somewhat lanceolate and with oblique pubescence; 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on tergite VI 0.2 of their interdistance and 1.6 times as long as pygidial setae a_1. Tergite I somewhat and tergites II-VI distinctly granular.

Bothriotricha. Relative lengths of bothriotricha: $T_1 = 100$, $T_2 = ?(81)$, $T_3 = (92)100$, $T_4 = 108$, $T_5 = 149$. Their axes simple, very thin in all but T_3. T_1, T_2 and T_4 similar to each other: short, erect, simple pubescence hairs proximally, somewhat longer outwards, on distal half branched and partly arranged in whorls. T_3 similar but with thicker axis. T_5 thin with short oblique pubescence of simple hairs.

Genital papillae (paratype). Glabrous, 1.8 times as long as their greatest diameter, inner margin straight, outer one evenly curved in distal half; seta 0.3 of the length of papilla.

Legs. Setae on coxa and trochanter of leg 9 simple, somewhat clavate, densely pubescent with hairs arranged in whorls; more anteriorly these setae are furcate with a rudimentary glabrous secondary branch. Tarsus of leg 9 very little tapering, (3.3)3.8 times as long as its greatest diameter. Proximal seta tapering, pointed, with short oblique pubescence, 0.2 of the length of tarsus and 1.2(1.5) times as long as distal seta which is subcylindrical and annulate. Cuticle of tarsus minutely granular.

Pygidium. Tergum. Posterior margin with deep posterior indentation between *st*, sides steep and bottom almost flat. Relative lengths of setae: $a_1 = 10$, $a_2 = (40)$, $a_3 = ?$, $st = 8$. These setae of very different shape: a_1 fusiform, blunt, a_2 lanceolate, both with short oblique pubescence; *st* subspherical bladders with short thin cylindrical stalk and short erect pubescence; a_1, a_2 and *st* converging. Distance a_1 - a_1 (2.4)2.5 times as long as a_1; distance a_1 - a_2 5 times longer than distance a_2 - a_3; distance *st* - *st* 4.2 times as long as *st* and (1.9)2.0 times as long as distance a_1 - a_1. Cuticle minutely pubescent.

Sternum. Posterior margin between b_1 with broad indentation and low median lobe with shallow posteromedian incision. Setae tapering, with short oblique pubescence. Relative lengths of setae ($a_1 = 10$): $b_1 = 62$, $b_2 = (46)48$, $b_3 = 16(20)$. The b_2

somewhat curved inwards. b_1 0.9 of their interdistance; b_2 1.4(1.5) times as long as distance b_1 - b_2; b_3 0.3(0.4) of distance b_3 - b_3.

Anal plate narrowest anteriorly, 1.3 times as long as broad, with lateral, blunt, posterolaterally directed horn-like processes; posterior part of plate extended into a linguiform lobe, from its base two diverging appendages protruding in posterolateral direction; appendages 0.7 of the length of plate, leaf-shaped, 1.4 times as long as wide, with thin cylindrical stalk and a dense oblique pubescence.

Subgenus ***Decapauropus*** Remy, 1957 (Remy, 1957a)

5. ***Allopauropus* (*D.*) *aristatus*** Remy

Allopauropus (*D.*) *aristatus* Remy, 1936a: p.19-22, figs 6-9.

Material examined. Morocco, Rif Atlas, El-Gouzat, alt. 1050 m, under evergreen oaks, soil sample, Berlese extraction, 8 ad. 9(♀), 41 juv. 6, 7 juv. 3, 2.VI.1978 (Loc. Mar-78/12, leg. B. Hauser).

Total number. 56 specimens.

General distribution. The species is known in Europe from France, Germany, Switzerland, Bulgaria, Spain, Yugoslavia, Greece; in Africa from Algeria, Morocco, Gambia, Madagascar; and in North America from the USA and Canada.

6. ***Allopauropus* (*D.*) *corsicus*** Remy

Allopauropus (*D.*) *corsicus* Remy, 1940: p. 48-50, figs 2-4.

Material examined. Greece, Southern Island Arc, Crete, at the road Sitia - Iraklion, near Sfaka, small ravine, alt. 200 m, under *Quercus coccifera*, soil sample, Berlese extraction, 1 ad. 9(♀), 13.III.1979 (Loc. Kar-79/12a, leg. B. Hauser).

Total number. 1 specimen.

General distribution. Outside Greece (Scheller, 1977b) this species is known from France, Switzerland and Bulgaria.

7. ***Allopauropus* (*D.*) *cuenoti*** (Remy)

Decapauropus cuenoti Remy, 1931: p. 67-83, figs 1-12.

Material examined. Greece, Elidia, S of Pirgos, forest near the Alfios river, alt. 30 m, under *Pinus* sp., soil sample, Berlese extraction, 1 juv. 6, 22.III.1982 (Loc. Att-82/32, leg. B.Hauser). - Central Greece, Peloponnesus, Messenia, Kalamata District, near Messini, Analipsis, alt. 20 m, soil samples, Berlese extraction, under date palm, 1 juv. 5, and under *Eucalyptus*, 1 juv. 6, 23.III.1982 (Loc. Att-82/37 and Att-82/39 respectively, leg. B. Hauser); at the road Sparta - Kalamata, on the Kalamata side of the pass, alt. 1000 m, under *Abies cephalonica* and *Pinus* sp., soil sample, Berlese extraction, 3 ad. 9(♀), 25.III.1982 (Loc. Att-82/48, leg. B. Hauser). – Attica, Keratea, before the northern entrance of road, alt 160 m, under fig tree, 2 ad. 9(♀), 21.III.1982 (Loc. Att-82/30, leg. B. Hauser). – Aegean Islands, Ikaria, near the road Plumarion -Monokampion, alt. 420 m, high water level deposits, Berlese extraction, 1 juv. 5, 24.IV.1980 (Loc. Sam-80/6, leg. B. Hauser). - Samos, near Kosmathei, close to the entrance of the cave "Tsitse Tripa", alt. 510 m, old pine stumps, Berlese extraction, 2 ad. 9(♀), 5 subad. 8(♀), 4 juv. 6, 4 juv. 5, 25.IV.1980 (Loc. Sam-80/11, leg. B. Hauser).

Morocco, Grand Atlas, "Ifri-El-Kaid", moist guano sample from the beginning part of the cave, Berlese extraction, 1 juv. 6, 5.VI.1978 (Loc. Mar-78/25, leg. P. Strinati).

Total number. 25 specimens.

General distribution. Most European countries, North Africa, Madeira, the Canary Islands, Réunion and California.

8. *Allopauropus* (*D.*) *furcula* Silvestri

Allopauropus furcula Silvestri, 1902: fasc. 95, no. 7.

Material examined. GREECE, Elidia, S of Pirgos, forest near the Alfios river, alt. 30 m, under *Quercus pubescens*, soil sample, Berlese extraction, 1 ad. 9(♀), 22.III.1982 (Loc. Att-82/33, leg. B.Hauser). – Peloponnesus, Laconia, Talanta, at the road Neapolis – Monemvasia, alt. 210 m, under *Quercus coccifera*, soil sample, Berlese extraction, 3 ad. 9(1♂, 2♀), 4 subad. 8(1♂, 3♀), 3 juv. 6, 24.III.1982 (Loc. Att-82/45, leg. B. Hauser). - Messenia, at the road Sparta - Kalamata, on the Kalamata side of the pass, alt. 1000 m, soil sample under *Abies cephalonica* and *Pinus* sp., Berlese extraction, 1 ad. 9(♀), 25.III.1982 (Loc. Att-82/48, leg. B. Hauser).

Total number. 12 specimens.

General distribution. Known from South Europe, Madeira and the Canary Islands.

9. *Allopauropus* (*D.*) *gracilis* (Hansen)

Pauropus gracilis Hansen, 1902: p. 395-397, pl. V, fig. 3.

Material examined. MALTESE ISLANDS, Malta, Dingli, Buskett Forest, soil sample, 1 ad. 9(♂), 2.V.1976 (Leg. V. Aellen & P. Strinati).

GREECE, Messenia, Kalamata District, near Messini, Analipsis, alt. 20 m, under *Araucaria*, soil sample, Berlese extraction, 5 subad. 8(♀), 1 juv. 6, 2 juv. 5, 23.III.1982 (Loc. Att-82/38, leg. B. Hauser) and under *Eucalyptus*, soil sample, Berlese extraction, 1 juv. 5, 23.III.1982 (Loc. Att-82/39, leg. B. Hauser) and under laurel, 2 ad. 9 (♂, ♀), 23. III.1982 (Loc. Att-82/40, leg. B.Hauser); at the road Sparta - Kalamata, on the Kalamata side of the pass, alt. 1000 m, soil sample under *Abies cephalonica* and *Pinus* sp., Berlese extraction, 1 ad. 9(♀), 25.III.1982 (Loc. Att-82/48, leg. B. Hauser); near the road Areopolis - Kalamata, before Pygi, alt. 230 m, under *Quercus coccifera*, near a small stream, soil sample, Berlese extraction, 46 ad. 9(4♂, 42♀), 32 subad. 8(1♂, 30♀, 1 sex?), 27 juv. 6, 6 juv. 5, 1 juv. 3, 18.V.1981 (Loc. Art-81/15, leg. B. Hauser); ibidem, near Aghios Nikon, alt. 290 m, under *Quercus macrolepis*, 1 ad. 9(♂), 1 subad. 8(♀), 18.V.1981 (Loc. Art-81/13, leg. B. Hauser). - Arcadia, near the road Kandila - Skotini (Nemea), alt. 920 m, under *Quercus coccifera*, soil sample, Berlese extraction, 2 juv. 6, 17.V.1981 (Loc. Art-81/11, leg. B. Hauser). - Laconia, Taigetos Massif, alt. 960 m, soil sample, Berlese extraction, 12 ad. 9(2♂, 9♀, 1 sex?), 4 subad. 8(♀), 13 juv. 6, 20.V.1981 (Loc. Art-81/18, leg. B. Hauser). - Achaia, near Patras, Panachaikon Massif, Kastritsion, near the road behind the village, alt. 590 m, soil sample from under a log at the foot of a large plane tree, 1 ad. 9(♂), 22.IV.1980 (Loc. Sam-80/3, leg. B. Hauser); Erymanthos Massif, above Kalusion, alt. 980 m, under *Abies cephalonica* and *Quercus coccifera*, soil sample, Berlese extraction, 1 ad. 9(♂), 1.V.1980 (Loc. Sam-80/18, leg. B. Hauser). – Attica, near Megara, Kaki Skala, above the motorway at 48 km sign of the old road, under *Pistacia terebinthus*, soil sample, Berlese extraction, 1 subad. 8(♀), 21.IV.1980 (Loc. Sam-80/2, leg. B. Hauser). – Aegean Islands, Ikaria, near the road Plumarion - Monokampion, alt. 420 m, high water level deposits, Berlese extraction, 2 ad. 9(♀), 1 juv. 6, 24.IV.1980 (Loc. Sam-80/6, leg. B.Hauser). Samos, near Kosmathei, close to the entrance of the cave "Tsitse Tripa", alt. 510 m, old pine stumps, Berlese extraction, 1 subad. 8(♀), 3 juv. 6, 1 juv. 5, 2 juv. 3, 25.IV.1980 (Loc. Sam-80/11, leg. B. Hauser).

Total number. 171 specimens.

General distribution. A. gracilis seems to have a (sub)cosmopolitan range. It is one of the species most often met with in Europe but has also been reported from Africa, South Asia and the Americas.

Remarks. It is here reported for the first time from the Maltese Islands.

10. *Allopauropus* (*D.*) *helveticus* (Hansen)

Pauropus helveticus Hansen, 1902: p. 390-392, pl. IV, fig. 5.

Material examined. MALTESE ISLANDS, Malta, Dingli, Buskett Forest, soil sample, 1 subad. 8(♀), 2.V.1976 (Leg. V. Aellen & P. Strinati).

GREECE, Peloponnesus, Arcadia, Panachaikon Massif, near the road Kastritsion - Patras, alt. 260 m, under *Cupressus sempervirens*, soil sample, Berlese extraction, 2 juv. 6, 16.III.1982 (Loc. Att-82/5, leg. B. Hauser). - Messenia, Kalamata District, near Messini, Analipsis, alt. 20 m, under *Araucaria*, soil samples, Berlese extraction, 1 subad. 8(♀), 23.III.1982 (Loc. Att-82/38, leg. B. Hauser) and under laurel, 1 juv. 6, 23.III.1982 (Loc. Att-82/40, leg. B. Hauser). – Attica, near Loutropirgos, above the motorway Elefsis – Megara, 1-2 km behind the entrance to the high-way, alt. 90 m, under *Pinus halepensis*, Berlese extraction, 1 juv. 6, 15.III.1982 (Loc. Att-82/1, leg. B. Hauser). – Central Greece, Acarnania, near Gavrolimni, S of the road, alt. 170 m, under *Pistacia lentiscus*, soil sample, Berlese extraction, 1 ad. 9(♂), 17.III.1982 (Loc. Att-82/13, leg. B. Hauser).

SWITZERLAND, Vaud, the cave Grande Rolat, Berlese extraction, 1 juv. 6 mounted on slide, 26.VIII.1981 (Leg. P. Strinati, V. Aellen & C. Besuchet).

Total number. 8 specimens.

General distribution. The species may be Holarctic. It has been collected in most European countries, North Africa, the Azores and North America.

Remarks. *A. helveticus* is here reported for the first time from the Maltese Islands.

11. ***Allopauropus* (*D.*) *helophorus*** Remy

Allopauropus helophorus Remy, 1936b: p. 132-133, fig. 1.

Material examined. GREECE, Peloponnesus, Messenia, Kalamata District, near Messini, Analipsis, alt. 20 m, under *Eucalyptus*, soil sample, Berlese extraction, 1 juv. 6, 23.III.1982 (Loc. Att-82/39, leg. B. Hauser).

Total number. 1 specimen.

General distribution. The known range covers an area from Belgium and northern France in the northwest to Bosnia, Serbia and Romania in the southeast. The locality reported above, the first one from Greece, extends the range considerably in southeastern direction.

12. ***Allopauropus* (*D.*) *multiplex*** Remy

Allopauropus (*A.*) *multiplex* Remy, 1936c: p. 75-76 and 1936d: p. 315-316, fig. 3.

Material examined. GREECE, Aegean Islands, Samos, near Kosmathei, close to the entrance of the cave "Tsitse Tripa", alt. 510 m, old pine stumps, Berlese extraction, 1 subad. 8(♀), 1 juv. 3, 25.IV.1980 (Loc. Sam-80/11, leg. B. Hauser).

SWITZERLAND, Basle-Land, western Sundgau, near small stream Dorrenbach, under *Heracleum* and *Dactylis*, moist loess, 1 juv. 6, 16.VIII.1942 (Loc. Ae 254/g, leg. H. Gisin).

Total number. 3 specimens.

General distribution. *A.* (*A.*) *multiplex* is known from the Western Palaearctic Region only and occurs there from Sweden in the north to Morocco in the south, from Great Britain in the west to Greece in the east.

13. ***Allopauropus* (*D.*) *pectinatus*** (Hansen)

Pauropus pectinatus Hansen, 1902: p. 388-390, pl. IV, fig. 4.

Material examined. GREECE, Peloponnesus, Messenia, Kalamata District, near Messini, Analipsis, alt. 20 m, under *Araucaria*, soil sample, Berlese extraction, 1 juv. 6, 23.III.1982 (Loc. Att-82/38, leg. B. Hauser).

Total number. 1 specimen.

General distribution. *A.* (*D.*) *pectinatus* is a West Palaearctic species known from France and Spain in the west to Greece in the east, and also from Morocco and Algeria.

14. *Allopauropus* (*D.*) *productus* Silvestri

Allopauropus productus Silvestri, 1902: Fasc. 95, no. 9.

Material examined. Greece, Peloponnesus, Laconia, Talanta, at the road Neapolis - Monemvasia, alt. 210 m, under St. John's bread tree, soil sample, Berlese extraction, 1 ad. 9(♀), 12 juv. 6, 24.III.1982 (Loc. Att-82/46, leg. B. Hauser). - Messenia, at the road Sparta - Kalamata, on the Kalamata side of the pass, alt. 1000 m, under *Abies cephalonica* and *Pinus* sp., soil sample, Berlese extraction, 1 ad. 9(♀), 25.III.1982 (Loc. Att-82/48, leg. B. Hauser).

Morocco, Rif Atlas, El-Gouzat, alt. 1050 m, under evergreen oaks, soil sample, Berlese extraction, 1 juv. 6, 2.VI.1978 (Loc. Mar-78/12, leg. B. Hauser).

Total number. 15 specimens.

General distribution. A probably Holarctic species with its main distribution around the Mediterranean.

15. *Allopauropus* (*D.*) *rastifer* Remy

Allopauropus rastifer Remy, 1948: p. 573-574.

Material examined. Malaysia, Teman Negara National Park, alt. 240 m, lowland rain forest, soil sample, Berlese extraction, 1 ad. 9(♀), 27.VI.1973 (Loc. As-73/1, leg. P. Schauenberg).

Total number. 1 specimen.

General distribution. A. rastifer is a rare species, only 13 specimens were earlier known from 7 sites in Kenya, Madagascar, Réunion, Pondichéry and Sri Lanka. The locality reported here, the first one from Malaysia, extends the range of this species to Southeast Asia.

Taxonomical remarks. The species was described from a single female from Kenya (Remy, 1948). In the specimen reported by Remy (1956b) from Madagascar (sub nomine *A. rastrifer* Remy) the setae a_3 of the pygidial tergum are proportionally longer than in the type specimen, the posterior margin of the pygidial tergum is different in shape and the anal plate is probably so too. Similar deviations from the original description can be observed in the specimen from Réunion (Remy, 1956c). The anal plate is there proportionately long, its lateral appendages short and the pygidial tergum has a posteromedian semicircular lobe not mentioned by Remy in his description of the species.

In the Malaysian specimen reported here, the temporal organs are proportionately long and the antennal globulus *g* more ovoid than in the type specimen. Moreover are the coxal setae of leg 9 simple.

Observations on the specimens referred to *A. rastifer* indicate that the species might not be monotaxic.

16. *Allopauropus* (*D.*) *vulgaris* (Hansen)

Pauropus vulgaris Hansen, 1902: p. 392-395, pl. V, fig. 2.

Material examined. Greece, Peloponnesus, Messenia, at the road Sparta - Kalamata, on the Kalamata side of the pass, alt. 1000 m, under *Abies cephalonica* and *Pinus* sp., soil sample, Berlese extraction, 1 juv. 6, 25.III.1982 (Loc. Att-82/48, leg. B.Hauser). – Aegean Islands, Ikaria, near the road Plumarion - Monokampion, alt. 420 m, high water level deposits, Berlese extraction, 1 ad. 9(♀), 1 juv. 5, 24.IV.1980 (Loc. Sam-80/6, leg. B. Hauser).

Total number. 3 specimens.

General distribution. The species is widely distributed in Europe and has also been collected in Africa, Sri Lanka and North America.

17. ***Allopauropus (D.) zaianus*** Remy

Allopauropus zaianus Remy, 1952: p. 154-155, fig. 4.

Material examined. Morocco, Rif Atlas, El-Gouzat, alt. 1050 m, under evergreen oaks, soil sample, Berlese extraction, 1 ad. 9(♂), 2.VI.1978 (Loc. Mar-78/12, leg. B. Hauser).

Total number. 1 specimen.

General distribution. Known only from the southwestern Palaearctic: Portugal, Spain, Morocco and Algeria.

Genus ***Pauropus*** Lubbock, 1867

18. ***Pauropus bagnalli*** Remy

Pauropus Bagnalli Remy, 1935a: p. 1-2.

Material examined. Slovenia, Julian Alps, Triglav, on Tominskova trail, near Aljažev dom, alt. 1070 m, beech forest, under stone, 1 ad. 9(♀), 26.VIII.1967 (Loc. Tg-67/8, leg. B. Hauser).

Total number. 1 specimen.

General distribution. Previously known from France, Germany, Austria and the Slovak Republic. It is here reported for the first time from Slovenia.

19. ***Pauropus huxleyi*** Lubbock

Pauropus huxleyi Lubbock, 1867: p. 182-185, pl. 10, figs 1-19.

Material examined. Greece, Elidia, S of Pirgos, forest near the Alfios river, alt. 30 m, under *Pinus* sp., soil sample, Berlese extraction, 5 ad. 9(1♂, 4♀), 9 subad. 8(2♂, 5♀, 2 sex?), 6 juv. 6, 6 juv. 5, 22.II.1982 (Loc. Att-82/32, leg. B.Hauser). – Peloponnesus, Laconia, Taigetos Massif, alt. 960 m, soil sample, Berlese extraction, 1 ad. 9(♀), 20.V.1981 (Loc. Art-81/18, leg. B. Hauser).

Total number. 27 specimens.

General distribution. *P. huxleyi*, in the sense of Lubbock, has been mentioned from many European countries, from North America and New Zealand and may have a wide range. However, it has often been confused with *P. lanceolatus* Remy, and at present it is impossible to delimit its range.

20. ***Pauropus numidus*** Remy

Pauropus numidus Remy, 1947b: p. 66-68, fig.1.

Material examined. Morocco, Moyen Atlas, Tazzeka District, Bab-Azhar, under cork oaks, soil sample, Berlese extraction, 2 juv. 6, 1.VI.1978 (Loc. Mar-78/9, leg. B. Hauser).

Total number. 2 specimens.

General distribution. The species is known from Spain and from a dubious record from Austria; outside Europe from Morocco, Algeria and the Canary Islands.

Genus ***Stylopauropoides*** Remy, 1956

21. ***Stylopauropoides subantarcticus*** Scheller

Stylopauropoides subantarcticus Scheller, 1974a: p. 62-65, fig. 2.

Material examined. ARGENTINA, Patagonia, W Ushuaia, Monte Susana, south slope, alt. c. 300 m, in litter of a *Nothofagus pumilis-betuloides* forest, Berlese extraction, 1 ad. 9(♂), 26.III.1975 (Loc. Am-75/3, leg. E. Horak).

Total number. 1 specimen.

General distribution. The species is here reported for the first time from Argentina. It was previously known only from one of the Crozet Islands in the French Subantarctic Territory. Its occurrence in southernmost Patagonia may indicate that the species is more or less widespread.

Genus ***Stylopauropus*** Cook, 1896

Subgenus ***Stylopauropus*** s. str.

22. ***Stylopauropus* (*S.*) *neglectus*** Remy

Stylopauropus (*S.*) *neglectus* Remy, 1962: p. 80-81, fig. 2.

Material examined. SWITZERLAND, Ticino, Grotta del Mago, alt. 350 m, 1 ad. 9(♀), 1 subad. 8(♀), 24.VI.1975 (Loc. Ju-75/15, leg. B. Hauser).

Total number. 2 specimens.

General distribution. S. neglectus was previously known from France, Austria and Italy.

Remarks. The species is here reported for the first time from Switzerland.

23. ***Stylopauropus* (*S.*) *pedunculatus*** (Lubbock)

Pauropus pedunculatus Lubbock, 1867: p. 185, pl. 10, fig. 20.

Material examined. SLOVENIA, Snežnik, alt. 1500 m, beech forest, under stones, 1 ad. 9(♀), 11.IX.1969 (Loc. Ju-69/32, leg. V. Mahnert); ibidem, alt. ca. 1100 m, 1 ad. 9(♂), 11.IX.1969 (Loc. Ju-69/33, leg. V. Mahnert). Between Godovič and Crni Vrh, beech forest, 2 ad. 9(♂), 1 stad.?, 12.IX.1969 (Loc. Ju-69/35, leg. V. Mahnert).

GREECE, Peloponnesus, Achaia, Erymanthos Massif, above Kalusion, alt. 980 m, under *Abies cephalonica* and *Quercus coccifera*, soil sample, Berlese extraction, 1 ad. 9(♀), 1.V.1980 (Loc. Sam-80/18, leg. B. Hauser). - Messenia, near the road Areopolis -Kalamata, before Pygi, near a small stream, alt. 230 m, under *Quercus coccifera*, soil sample, Berlese extraction, 1 ad. 9(♀), 3 subad. 8(1♂, 2♀), 1 juv. 6, 18.V.1981 (Loc. Art-81/15, leg. B. Hauser). - Arcadia, at a monastery near Kandila, alt. 870 m, 1 subad. 8(sex?), 16.V.1981 (Loc. Art-81/6, leg. B. Hauser). - Laconia, Taigetos Massif, alt. 960 m, under *Abies cephalonica*, soil sample, Berlese extraction, 6 ad. 9(♀), 9 subad. 8(8♀, 1 sex?), 7 juv. 6, 6 juv. 5, 2 juv. 3, 20.V.1981 (Loc. Art-81/18, leg. B. Hauser). – Messenia, Kalamata District, near Messini, Analipsis, alt. 20 m, under laurel, 2 subad. 8(♀), 1 juv. 6, 23.III.1982 (Loc. Att-82/40, leg. B. Hauser). Messenia, at the road Sparta - Kalamata, on the Kalamata side of the pass, alt. 1000 m, under *Abies cephalonica* and *Pinus* sp., soil sample, Berlese extraction, 1 ad. 9(♀), 25.III.1982 (Loc. Att-82/48, leg. B. Hauser). - Corinth, near the road Klenia - Aghionorion, alt. 640 m, in the cave "Tripa tou Kalivaki", 1 ad. 9(♀), 1 subad. 8(♀), 13.V.1981 (Loc. Art-81/1, leg. B. Hauser). - Attica, Keratea, before the northern entrance of the road, alt. 160 m, under fig tree, 18 ad. 9(7♂, 11♀), 39 subad 8(12♂, 25♀, 2 sex?), 29 juv. 6, 19 juv. 5, 1 stad.?, 21.III.1982 (Loc. Att-82/30, leg. B. Hauser). - Aegean Islands, Ikaria, near the road Plumarion - Monokampion, alt. 420 m, sample from old stump of *Platanus orientalis*, Berlese extraction, 1 juv. 6, 24.IV.1980 (Loc. Sam-80/7, leg. B. Hauser). Samos, near Kosmathei, the cave "Kako Perato" near the monastery Kimisos Theotoki, alt. 580 m, 1 juv. 6, 25.IV.1980 (Loc. Sam-80/9, leg. B. Hauser). Samos, near Kosmathei, in the cave "Tsitse Tripa", alt. 510 m, 1 ad. 9(♀), 25.IV.1980 (Loc. Sam-80/10, leg. B. Hauser).

Total number. 157 specimens.

General distribution. S. pedunculatus occurs in Europe in many countries from Sweden in the north to Spain and Greece in the south. Outside Europe it is known from Morocco, the Canary Islands, and from the USA, Canada and Australia.

Subgenus ***Donzelotauropus*** Remy, 1957 (Remy, 1957a)

24. ***Stylopauropus (D.) limitaneus*** Remy
Stylopauropus (D.) limitaneus Remy, 1962: p. 76-78, fig 2.

Material examined. Slovenia, between Godovic and Crni Vrh, alt. ca 600 m, beech forest, 2 ad. 9(♀), 12.IX.1969 (Loc. Ju-69/35, leg. V. Mahnert). Julian Alps, Triglav, on Tominskova trail, near Aljažev dom, alt. 1070 m, beech forest, under stone, 1 ad. 9(♀), 26.VIII.1967 (Loc. Tg-67/8, leg. B. Hauser).
Total number. 3 specimens.

General distribution. S. limitaneus is a rare species known from a few localities only: one in Austria, some in Romania, one in Italy and one in the USA. It is here reported from Slovenia for the first time.

Genus ***Rabaudauropus*** Remy, 1953

25. ***Rabaudauropus cuspidatus*** (Remy)
?Pauropus cuspidatus Remy, 1939: p. 12-15, figs 4-5.

Material examined. Greece, Peloponnesus, Achaia, Panachaikon Massif, near the road Kastritsion-Patras, alt. 260 m, under *Cupressus sempervirens*, soil sample, Berlese extraction, 1 ad. 9(♂), 1 juv. 5, 6 juv. 3, 16.III.1982 (Loc. Att-82/5, leg. B. Hauser). - Laconia, Talanta, at the road Neapolis - Monemvasia, alt. 210 m, soil samples, Berlese extraction, 24.III.1982, under *Quercus coccifera*, 1 juv. 6 (Loc. Att-82/45, leg. B. Hauser) and under St. John's bread tree, 1 ad. 9(♀), 1 juv. 6, 1 juv. 5 (Loc. Att-82/46, loc. B. Hauser).
Total number. 12 specimens.

General distribution. R. cuspidatus has a Mediterranean range: South France, Italy, Bosnia, Romania, Greece and Morocco.

Brachypauropodidae

Genus ***Brachypauropus*** Latzel, 1884

26. ***Brachypauropus superbus*** Hansen
Brachypauropus superbus Hansen, 1902: p. 410-412, pl. VI, fig. 3.

Material examined. Greece, Peloponnesus, Achaia, Erymanthos Massif, above Kalusion, alt. 980 m, under *Abies cephalonica* and *Quercus coccifera*, soil sample, Berlese extraction, 1 juv. 6, 1.V.1980 (Loc. Sam-80/18, leg. B. Hauser).
Total number. 1 specimen.

General distribution. The species has not often been met with, it is known from one locality in Poland, some in France, one in Romania, two in Spain and one in Italy. The locality reported above, the first one from Greece, extends the range considerably in southeast direction.

Eurypauropodidae

Subfamily **Eurypauropodinae**
Genus ***Acopauropus*** Cook, 1896

27. ***Acopauropus attemsi*** Hasenhütl Fig. 14
Acopauropus attemsi Hasenhütl, 1987: p. 21-24, figs 1-3 on p. 43-47.

Material examined. GREECE, Peloponnesus, at the road Sparta - Kalamata, alt. 1150 m, under *Pinus*, soil sample, Berlese extraction, 3 ad. 9(2♂,1♀), 20.V.1976 (Loc. The-76/32, leg. B. Hauser).

Total number. 3 specimens.

General distribution. A. attemsi is known from Carinthia and Styria in Austria only. The locality reported above, the first one from Greece, extends the range to south-east Europe.

Taxonomical remarks. Genital papillae with short pubescence, widest in the middle, inner and outer sides evenly curved, 1.4 times as long as their greatest diameter; length of seta 0.7 of the length of papilla.

28. ***Acopauropus hastatus*** (Attems)

Eurypauropus hastatus Attems, 1895: p.173-175, figs 15-18.

Material examined. TURKEY, Istanbul, between Yalova and Orhangazi, 1 ad. 9(♀), 11.V.1976 (Loc. 1, leg. C. Besuchet & I. Löbl).

SWITZERLAND, Ticino, Val Mara, alt. 800 m, under old tree stumps, 6 ad. 9(5♂,4♀), 4 subad. 8(1♂,3♀), 1 juv. 6, 18.IV.1976 (Leg. C. Besuchet).

Total number. 12 specimens.

General distribution. A. hastatus was previously known from the southern half of Europe only: Switzerland, Austria, Czech Republic, Italy, Slovenia and Romania. The known range of the species is here extended to west Turkey.

29. ***Acopauropus consobrinus*** (Remy)

Eurypauropus consobrinus Remy, 1937: p. 253-256, figs 1-5.

Material examined. FRANCE, Gard, above St. Jean du Gard, hazel, flotation, 1 ad. 9(♀), 26.X.1982, and Tornac, olivewood, 2 ad. 9(♀), 28.X.1982 (Leg. I.Löbl). Ibidem, Roquedur, flotation, 1 ad. 9(♂), 22.XI.1982 (Leg. C. Besuchet). - Pyrénées-Orientales, forest near the cave Pouade, 2 ad. 9(♂,♀), 12.IV.1977 (Leg. I. Löbl); ibidem, Parcigoule, 3 ad. 9(1♂, 2♀), 15.IV.1977 (Leg. I. Löbl); ibidem, 16 km W Tech, in ravine near the river Tech, 7 ad. 9(6♂, 1♀), 15.IV.1977 (Leg. I. Löbl).

SWITZERLAND, Ticino, Rancate, at foot of chestnut stump, 2 ad. 9(♀), 27.V.1982; Caprino, compost, 1 ad. 9(♀), 29.V.1982; Valle della Crotta, alt. 700 m, in litter, 1 ad. 9(♀), 21.V.1982 (Leg. C. Besuchet).

Total number. 20 specimens.

General distribution. This species has often been collected in South France but is rare outside. One locality each is known from Austria, Spain and Algeria. *A. consobrinus* is here reported for the first time from Switzerland.

30. ***Acopauropus hispanicus*** (Scheller)

Gravieripus hispanicus Scheller, 1974b: p. 626-630, figs 6-7.

Material examined. SPAIN, Gerona Prov., Col de Coubet, alt. 960 m, 22 ad. 9(13♂, 9♀), 19.VII.1975 (Leg. I. Löbl).

Total number. 22 specimens.

General distribution. The species was previously known only from the locality of the male holotype in Spain (Gerona Prov., near Olot, Uria).

31. ***Acopauropus tetrastichus*** Scheller

Acopauropus tetrasticlus Scheller, 1981b: p. 167, 169-172, figs 4-5.

Material examined. TURKEY, above Zonguldak, alt. 500 m, 3 ad. 9(1♂, 2♀), 23.V.1976 (Loc. 35, leg. C. Besuchet & I. Löbl).

Total number. 3 specimens.

General distribution. A. tetrastichus was known only from one specimen from the type locality in the Georgian Republic in the Caucasus Mountains (Scheller, 1981b).

Remarks. The specimens studied here correspond in general very well with the type specimen, but the antennal globulus *g* is proportionately longer and the *g'* shorter, both the antennal branches are more slender and the distal part of the genital papillae are more distinctly cylindrical. The species is here reported for the first time from Turkey.

Genus ***Trachypauropus*** Tömösváry, 1882

32. ***Trachypauropus cordatus*** (Scheller) Figs 15-18

Gravieripus cordatus Scheller, 1974b: p. 617-622, figs 1-2.

Material examined. ITALY, near Siena, Montalbuccio, 3 ad. 9(♀), 1 subad. 8(♀), 1 juv. 6, XI.1974 (Leg. R. Dallai).

GREECE, Elidia, S of Pirgos, forest near the Alfios river, alt. 30 m, soil samples, Berlese extraction, under *Pinus* sp., 13 ad. 9(6♂, 6♀, 1 sex?), 8 subad. 8 (4♂, 4♀), 1 juv. 6, 3 juv. 5, 3 juv. 3 (Loc. Att-82/32, leg. B. Hauser), and under *Quercus pubescens*, 1 subad. 8(♂), 1 juv. 6, 22.III.1982 (Loc. Att-82/33, leg. B. Hauser). - Peloponnesus, Messenia, near the road Areopolis - Kalamata, before Pygi, near a small stream, alt. 230 m, under *Quercus coccifera*, soil sample, Berlese extraction, 3 ad. 9(♀), 5 juv. 6, 1 juv. 5, 18.V.1981 (Loc. Art-81/15, leg. B. Hauser). – Aegean Islands, Ikaria, near the road Plumarion - Monokampion, alt. 420 m, Berlese extraction, sifting of high water level deposits near small river, 1 juv. 5, 24.IV.1980 (Loc. Sam-80/5b, leg. B. Hauser) and sample from old stump of *Platanus orientalis*, 1 subad. 8(♀), 24.IV.1980 (Loc. Sam-80/7, leg. B. Hauser). Samos, near Kosmathei, close to the entrance of the cave "Tsitse Tripa", alt. 510 m, old pine stump, Berlese extraction, 1 ad. 9(♂), 25.IV.1980 (Loc. Sam-80/11, leg. B. Hauser). – South Island Arc, Crete, at the road Sitia - Iraklion, near Sfaka, small ravine, alt. 200 m, under *Quercus coccifera*, soil sample, Berlese extraction, 2 ad. 9(♀), 13.III.1979 (Loc. Kar-79/12b, leg. B. Hauser).

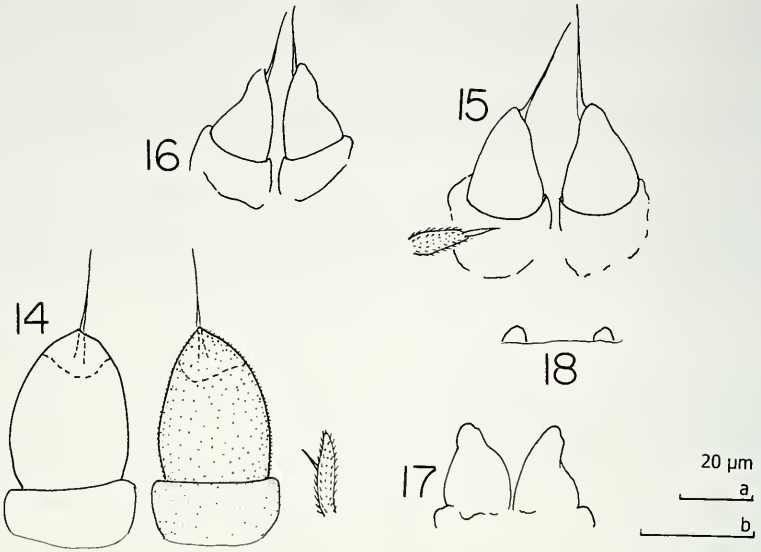
TURKEY, 7 km E Yasilkent, Antakya, alt. 350-400 m, in litter, 1 ad. 9(♀), 4.V.1978 (Loc. 22, leg. C. Besuchet & I. Löbl).

SWITZERLAND, Geneva, Malval, in moss, 1 ad. 9(♀), 8.VII.1983, and Chancy, under old log, 1 ad. 9(♀), 13.VII.1983 (Leg. C. Besuchet).

Total number. 48 specimens.

General distribution. T. cordatus was known earlier from Spain, Italy and Greece, but the localities reported above from Switzerland and Turkey, the first ones from these countries, indicate a wider range both in the north and south-east.

Taxonomical remarks. No males were available when *T. cordatus* was described (Scheller, 1974b, 1977a) but the discovery of some, both adults and subadults, in the material from Greece makes it possible to describe the genital papillae of both stages. In adults they are glabrous, distinctly conical, 1.4-1.5 times as long as their greatest diameter, with the seta 0.8-0.9 of the length of papilla; in subadults they are also glabrous and without seta, either very small or larger, about half of the length of the papillae in the adults.



FIGS 14-18

Genital papillae. 14, *Acopauropus attemsi*, ad. 9; 15-18, *Trachypauropus cordatus*, 15-16 ad. 9 and 17-18 subad. 8. Pubescence only partly drawn in Fig. 14. Scale a: Figs 14-16; b: Figs 17-18.

33. ***Trachypauropus glomerioides*** Tömösváry

Trachypauropus glomerioides Tömösváry, 1882: p. 362-363, figs 4-8.

Material examined. TURKEY, above Zonguldak, alt. 500 m, 16 ad. 9(5♂, 11♀), 23.V.1976 (Loc. 35, leg. C. Besuchet & I. Löbl).

SWITZERLAND, Geneva, Bellerive, compost, 2 ad. 9(♀), 22.VI.1980, and Geneva, Frontenex, at foot of oak, 2 ad. 9(♀), 11.VI.1981 (Leg. C.Besuchet).

Total number. 20 specimens.

General distribution. T. glomerioides seems to have a Central European – East Mediterranean distribution from eastern France and Italy in the west to Romania and Turkey in the east. The species is here reported for the first time from Turkey.

34. ***Trachypauropus latzeli*** (Cook)

Eurypauropus latzeli Cook, 1896: p. 32.

Material examined. FRANCE, Drôme, Forêt de Saou, among dead leaves, 1 ad. 9(♀), 29.IX.1981 (Leg. C. Besuchet). - Haute-Savoie, Grand Salève, in moss, alt. 1350 m, 1 ad. 9(♀), 19.X.1980 (Leg. C. Besuchet).

SWITZERLAND, Basle, Diegten, in dead leaves, 3 ad. 9(♀), 28.IX.1975 and 3 ad. 9(2♂, 1♀), 26.IX.1976 (Leg. C. Besuchet). - Vaud, Onnens, old stump, 1 subad. 8(♀), 16.VI.1976 (Leg. C. Besuchet). - Geneva, Chancy, at the foot of old stump, 1 ad. 9(♂), 25.II.1976 (Leg. C. Besuchet); ibidem, Vers-Vaux, at the foot of old stump, 3 ad. 9(1♂, 2♀), 16.X.1976 (Leg. C. Besuchet).

Total number. 13 specimens.

General distribution. The species has not so often been collected but it seems to be widely distributed in the southern half of Europe.

Genus ***Samarangopus*** Verhoeff, 1934

35. ***Samarangopus molestus*** Remy Figs 19-25

Samarangopus molestus Remy, 1959: p. 186-189, fig. 14.

Material examined. MAURITIUS, Curepipe, Trou-aux-Cerfs, alt. 700 m, 1 ad. 9(♀), 20.I.1975 (Loc. Mau-75/26, leg. P. Schauenberg).

Total number. 1 specimen.

Remarks. The species was previously known from three sites on Mauritius (Remy, 1959). The specimen reported above agrees well with the description of the type. However, some important details were not studied by Remy and the description is emended in the following respects.

COMPLEMENTARY DESCRIPTION

Antennae. Neither the antennal setae nor the branch *t* was drawn by Remy. The main part of the antenna is shown in fig. 20. Base segments of flagella with short oblique pubescence.

Trunk. Tergites I-V each with several low elevations (Figs 19, 21) having the largest type of cuticular protuberances.

Bothriotricha. All bothriotricha but T_3 with very thin axes, glabrous most proximally and outwards covered with erect minute pubescence. T_3 with distinct pubescence (Fig. 22).

Legs (Figs 23, 24). Setae on coxa and trochanter of all legs furcate. The one on coxa of leg 9 with rudimentary, glabrous, pointed secondary branch, the one on trochanter with subequal branches. More anteriorly these setae are similar to those of the coxa of leg 9.

Tarsi distinctly tapering, on leg 1 and 9 2.0 times longer than their greatest diameter. Tarsi of leg 1 with one straight and thin seta, almost 0.3 of the length of tarsus. Tarsi of leg 9 with two tergal setae, both strongly tapering, the distal one thickest and distinctly curved; length of proximal seta 1/3 of the length of tarsus and 1.6 times as long as distal seta. Length of the main claw 0.6 of the length of tarsus in leg 1 and 0.5 in leg 9.

Pygidium (Fig. 25). *Tergum.* Posterior margin with shallow indentation between *st* and short digitiform appendages behind a_3, about as long as a_2. Setae a_1, a_3 and *st* tapering and pointed, a_1 and *st* also curved inwards, a_3 also diverging; a_2 straight, cylindrical, blunt and converging, all but *st* shortly pubescent. Index of tergal setae a_1 = *st* = 5, a_2 = 3, a_3 = 8, $a_1 - a_1$ = 10, $a_2 - a_2$ = 22, $a_3 - a_3$ = 32, *st* – *st* = 9 µm; *st* – $st/a_1 - a_1$ = 0.9, $a_1/a_1 - a_1$ = 0.5, $a_1/a_1 - a_2$ = 0.8, $a_1 - a_1/a_2 - a_3$ = 1.0; cuticle between a_2, a_3 and *st* minutely granular.

Sternum. Posterior margin between b_1 with shallow indentation; setae thin, b_1 and b_2 tapering, pointed, minutely pubescent, b_3 cylindrical. Index of sternal setae: b_1 = 25, b_2 = 20, b_3 = 10, $b_1 - b_1$ = 30, $b_2 - b_2$ = 48, $b_3 - b_3$ = 19; $b_1/b_1 - b_1$ = 0.8, $b_2/b_1 - b_2$ = 0.9; $b_3/b_3 - b_3$ = 0.5.

Anal plate 1.1 times as broad as long, anterior and posterior ends of the same breadth; lateral margins with a pair of diverging, blunt, cylindrical branches, ≈ 0.7 of the length of plate and curved inwards; posterior half of the plate divided longi-

tudinally by a narrow incision into two somewhat narrowing appendages, which are cut squarely at distal end; their ends with thornlike prolongation of inner margin and large bladders covered with a short but dense pubescence; bladders 3 times longer than wide, 0.8 of the length of plate.

36. ***Samarangopus rwandaensis*** sp. n. Figs 24-37

Type material. **Holotype:** ad. 9(♂), Rwanda, Rangiro, alt. 1800 m, sifting in forest, 26.VIII.1976 (Loc. Rwa-73/7, leg. P. Werner). **Paratype:** 1 ad. 9(♂), same locality as holotype, 10.VII.1973 (Loc. Rwa-73/7, leg. P. Werner).

Total number. 2 specimens.

Diagnosis. Samarangopus is probably rich in species because new finds almost always have resulted in descriptions of new species. Thus, as several new species remain to be discovered, every statement on the relationships of *S. rwandaensis* will be premature. However the structure of the tergites indicates that two New Caledonian species, *S. umbraculus* Scheller (Scheller, 1993) and *S. browni* Remy (Remy, 1957b), may be most closely related.

Etymology. A latinized adjective of the name Rwanda.

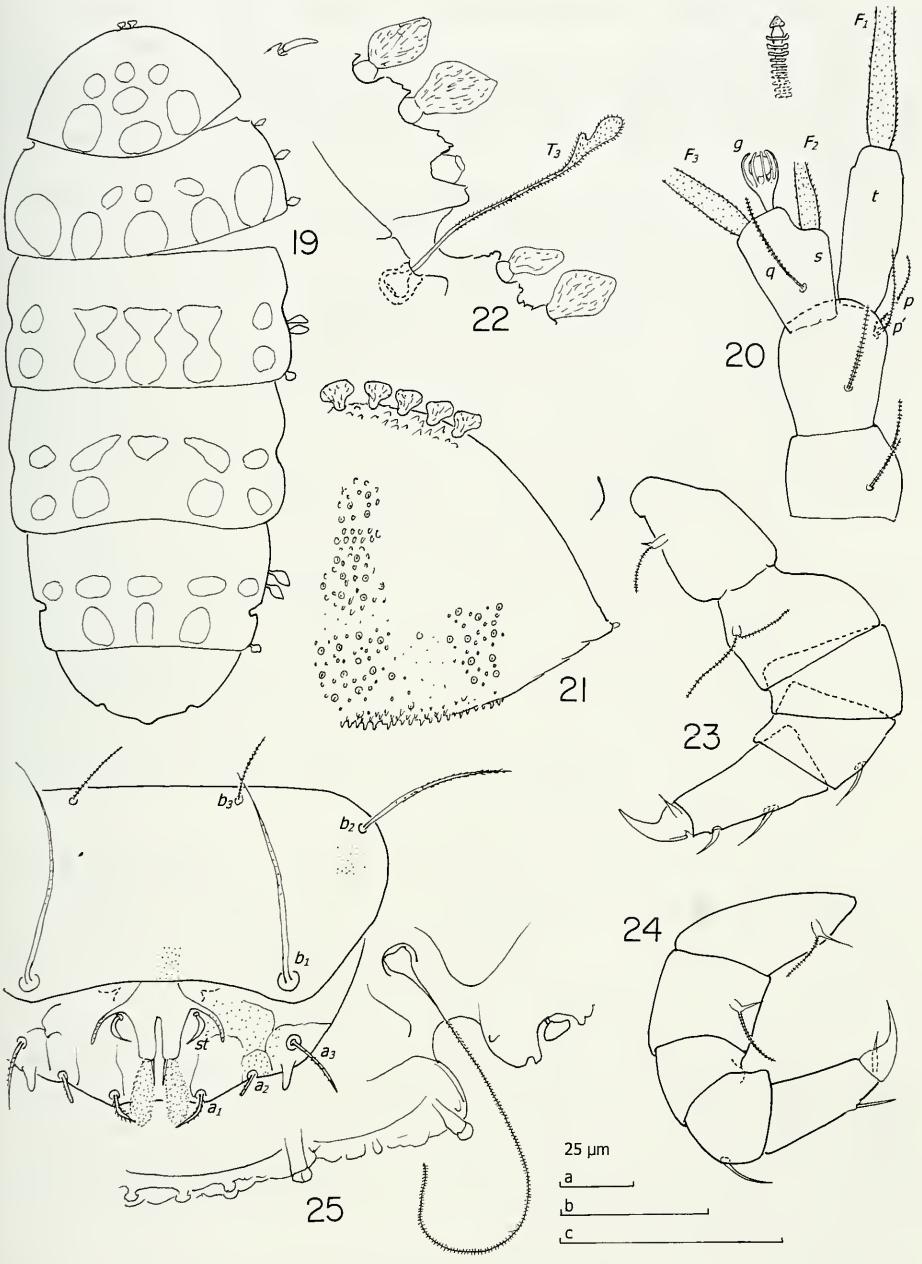
Description

Length. (1.05)1.10 mm.

Head. No vertex setae. Anterior part of temporal organs turned up without contact with the head cuticle.

Antennae. Chaetotaxy of segments 1-4: 2/2/2/3; no *g*'; setae thin, tapering, pointed, striate on segment 4, *p* = 30, *p*' = 24(25), *p*'' = (27)29 µm; neither *p*''' nor *u* and *r*. Sternal branch subcylindrical but with distinct anterior truncation, anterior margin = (30)32, posterior margin = 45(50), Ø of base = 12, maximum Ø = (13)14 µm, *q* thin tapering pointed striate, l = (14)16 µm. Posterior margin/length of *g* (2.6)2.9, posterior margin/maximum Ø = 3.2(3.8), maximum Ø/Ø of base = (1.1)1.2. Tergal branch subcylindrical, l = 40(50), Ø of base = 8(9), maximum Ø = 9.5(12) µm; pore not discernible; length of *t*/maximum Ø = 4.2. Globulus *g*, l = 17, maximum Ø = 10 µm; length/maximum Ø = 1.7; number of bracts 12(13), their length = 7, capsule with flattened bottom, l = 3(-4), Ø = (5)6 µm. Relative lengths of flagella (with base segments included): F_1 = 100, F_2 = 42, F_3 = (84)86. Lengths of base segments, bs_1 = (13)18, bs_2 = (12)13, bs_3 = (23)27. F_1 (2.8) times as long as *t*, F_2 and F_3 1.4 and (2.7)2.8 times as long as *s* respectively. Antennae glabrous but the helmet-shaped calyces have all a very short pubescence.

Trunk. Collum segment hidden. Tergites with two main types of protuberances: 1. rod-shaped with transparent cup protruding in a single row from bulges on anterior and lateral margins of tergite I and from lateral margins of tergites II-VI. 2. round cushion-like structures (in tergal view) with a small opening on the top and a pattern inside similar to a cart wheel with several spokes, which are thickest near a central cavity; cushion-like structures evenly distributed over the tergites, except most anteriorly on tergites II-VI. Posterior margins of tergites I-V lined with a row of such cushion-like structures. On all tergites there is a complicated pattern of other cuticular structures: cavities with canals forming a radiating pattern at the bottom, canals



FIGS 19-25

Samarangopus molestus Remy. 19, body with low elevations, tergal view; 20, left antenna, sternal view; 21, tergite I, median and right part; 22, tergite IV, lateral side with T_3, sternal view; 23, leg 9; 24, leg 1; 25, pygidium and left posterolateral part of tergite VI, sternal view. Pubescence only partly drawn in Fig. 25. Scale a: Fig. 21; b: Figs 22-24; c: Figs 20,25.

connecting the cushion-like protuberances, and bare patches, the latter being few and indistinct.

Bothriotricha. All bothriotricha but T_3 with very thin axes, glabrous except for their distal parts which have a minute pubescence. T_3 with thicker axes, distal third increasing in width distally forming a clavate swelling with very short, almost erect pubescence.

Genital papillae. Glabrous, subcylindrical, with almost straight inner margin, (1.7)1.8 times as long as greatest diameter; seta 0.4 of length of papilla.

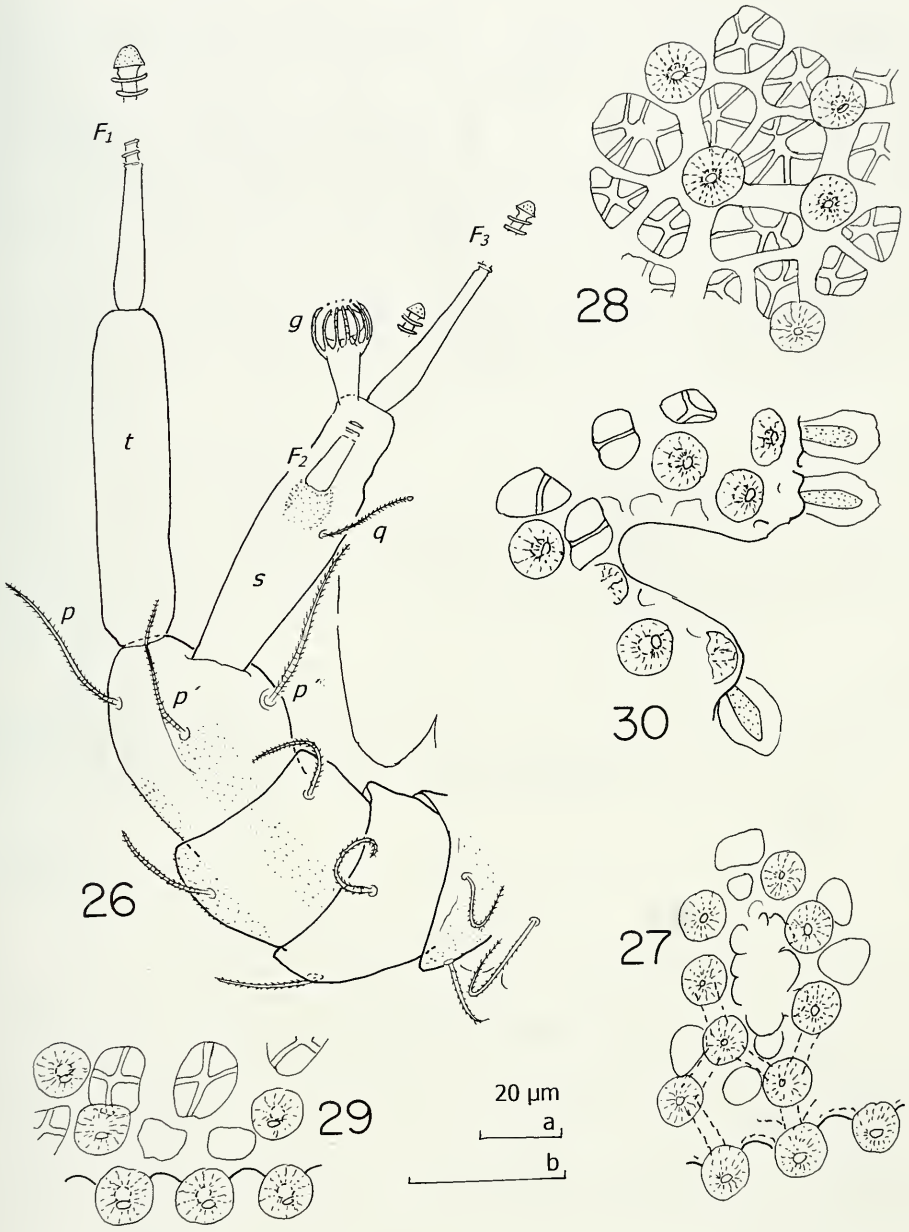
Legs. All legs 5-segmented. Setae on coxa and trochanter of leg 9 furcate, striate, bases pubescent; length of secondary branch 0.5 of primary one; more anteriorly setae with rudimentary pointed glabrous secondary branches. Tarsi tapering; those of leg 9 (2.6)2.8 times as long as their greatest diameter, with two tergal setae, both pointed and glabrous; length of proximal one 20, distal one 15 µm. Proximal setae 0.3(0.4) of the length of tarsus and 1.6 times as long as distal seta. Cuticle of tarsus with short pubescence. No proximal seta on tarsi of leg 1. All legs with large main claw and small setose anterior secondary claw; length of main claw 0.5 of the length of tarsus in both leg 1 and 9. Disciform appendage of leg 1 not available for study.

Pygidium. Tergum. Posterior margin rounded but with tergal indentation and distinctly pubescent sternal lobe between a_1, lobe with small, posteromedian subtriangular projection. Setae a_1, a_2 and a_3 diverging, with oblique pubescence, a_1 and a_2 clavate, the latter also curved inwards, a_3 cylindrical, blunt, diverging, *st* rudimentary, diverging, glabrous. Index of setae: $a_1 = 10$, $a_2 = 8(9)$, $a_3 = (17)18$, *st* = 1 µm. Distance $a_1 - a_1 = (11)12$, $a_2 - a_2 = 27(28)$, $a_3 - a_3 = 45(47)$, $a_1 - a_2 = (9)10$, $a_2 - a_3 = 11(12)$, *st* – *st* = 17 µm. Distance $a_1 - a_1$ (1.1)1.2 times as long as a_1, distance $a_1 - a_2$ (0.8)0.9 of distance $a_2 - a_3$; distance *st* - *st* 17 times as long as *st* and 1.4 times as long as distance $a_1 - a_1$. Cuticle glabrous, except in front of a_1 and a_2.

Sternum. Posterior margin with broad indentation between b_1. Setae with distinct oblique pubescence; b_1 tapering, blunt, with very dense pubescence, b_2 fusiform, 6.2 times as long as its greatest diameter, pointed, b_3 tapering, pointed. Index of setae: $b_1 = (40)45$, $b_2 = 25(26)$, $b_3 = 14$ µm. Distance $b_1 - b_1 = 43(44)$, $b_2 - b_2 = 56(62)$, $b_3 - b_3 = (29)32$, $b_1 - b_2 = 43$, $b_2 - b_3 = 23(26)$ µm. Distance $b_1 - b_1$ 1.0(1.1) of the length of b_1, b_2 0.6 of distance $b_1 - b_2$, b_3 0.4 of distance $b_3 - b_3$.

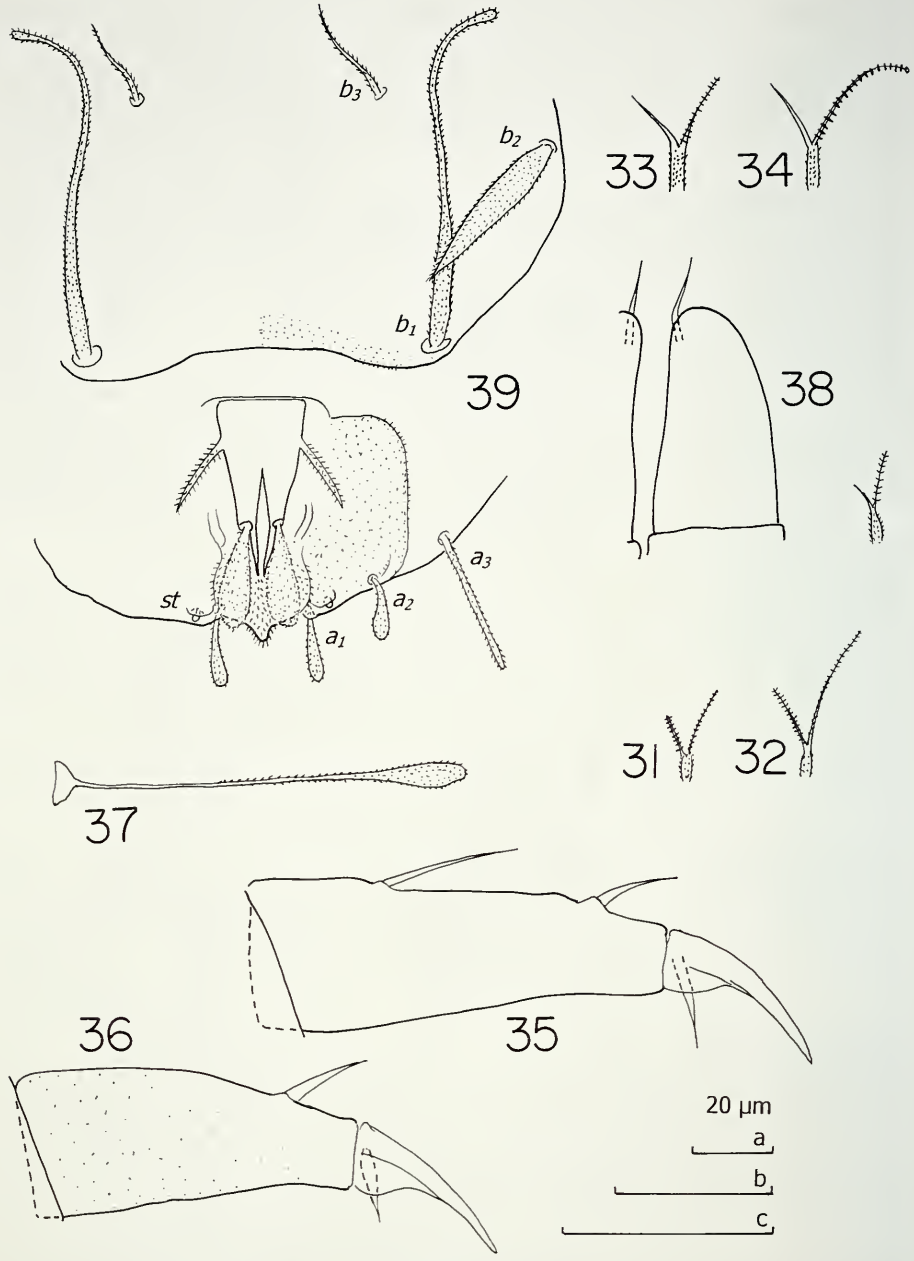
Anal plate broadest anteriorly, (1.4)1.5 times as long as broad, lateral margins almost straight and with tapering diverging appendages, 0.6 of the length of plate, distal part of plate cleft by a V-shaped incision into two tapering branches; each branch truncate and provided with two appendages: an inner pointed, glabrous one, 0.4 of the length of the plate, and an outer bladder-shaped one with (0.6)0.8 of the length of plate. Plate glabrous, lateral appendages with strong oblique pubescence, bladder-shaped appendages with dense short pubescence.

Remarks. This is the first time the genus *Samarangopus* can be reported from continental Africa. It was earlier known from Madagascar and eastwards from the Oriental Region, as well as from two areas in Notogaea, New Caledonia (Scheller, 1993) and Papua New Guinea (Scheller, 1996).



FIGS 26-30

Samarangopus rwandaensis sp. n., holotype ad. 9(♂). 26, left antenna, sternal view; 27, tergite II, bare patch surrounded by cavities in the cuticula and by cushion-like structures; canals between cushion-like structures drawn as dashed lines at the lower part of drawing; 28, tergite IV, anterior part; 29; tergite IV, posteromedian part; 30, tergite VI, lateral part with insertion pit of T_5, tergal view. Pubescence only partly drawn in Fig. 26. Scale a: Figs 27-30; b: Fig. 26.



FIGS 31-39

Samarangopus rwandaensis sp. n., holotype ad. 9(♂). 31, seta on coxa of leg 9; 32, seta on trochanter of leg 9; 33, seta on coxa of leg 8; 34, seta on trochanter of leg 8; 35, tarsus of leg 9; 36, tarsus of leg 1; 37, T_3; 38, right genital papilla and seta on coxa of leg 2, anterior view; 39, pygidium, sternal view. Pubescence only partly drawn in Fig. 39. Scale a: Figs 35, 36, 38; b: Figs 31-34, 37; c: Fig. 39.

Subfamily **Sphaeropauropodinae**

Genus ***Sphaeropauropus*** Silvestri, 1930

37. ***Sphaeropauropus nepalensis*** Scheller

Sphaeropauropus nepalensis Scheller, 2000: p. 118-121, figs 71-86.

Material examined. Sri Lanka, Central Province, Hakgala, wooded ravine in the north-east, alt. 1700-1800 m, sifting, 1 ad. 9(♀), 28.I.1970 (Loc. 30a, leg. C. Besuchet & I. Löbl).

Total number. 1 specimen.

General distribution. S. nepalensis is new to Sri Lanka. It was described from Nepal (Scheller, 2000) and is here reported for the first time outside the Himalaya.

Taxonomical remarks. The styli on the pygidial tergum of the specimen examined are thinner than in the material from Nepal.

38. ***Sphaeropauropus reunionensis*** sp. n. Figs 40-51

Type material. **Holotype:** ad. 9(♀), Réunion, St. Philippe, 14-15.I.1975 (Loc. Mau-75/60, leg. P.Schauenberg). **Paratype:** 1 subad. 8(♀), same locality and date as holotype.

Other material. Sri Lanka, Central Province, Matale, wooded ravine, alt. 400 m, sifting, 1 ad. 9(♀), 17.I.1970 (Loc. 7, leg. C. Besuchet & I. Löbl); Kandy, Udawattekele Sanctuary, primary forest, alt. 600 m, sifting, 1 ad. 9(♂), 19.I.1970 (Loc. 11, leg. C. Besuchet & I. Löbl). - Uva Province, about 10 km N Monaragala, forest, sifting, 1 ad. 9(♂), 13.II.1970 (Loc. 64, leg. C. Besuchet & I. Löbl).

Total number. 5 specimens.

Diagnosis. The species described here is well delimited from *S. malayus* Silvestri. Good distinguishing characters can be found in the shape of the antennal globulus *g*, the T_3, the claws and the tarsi and in the cuticular structures of the tergites.

Etymology. A latinized adjective of the name Réunion.

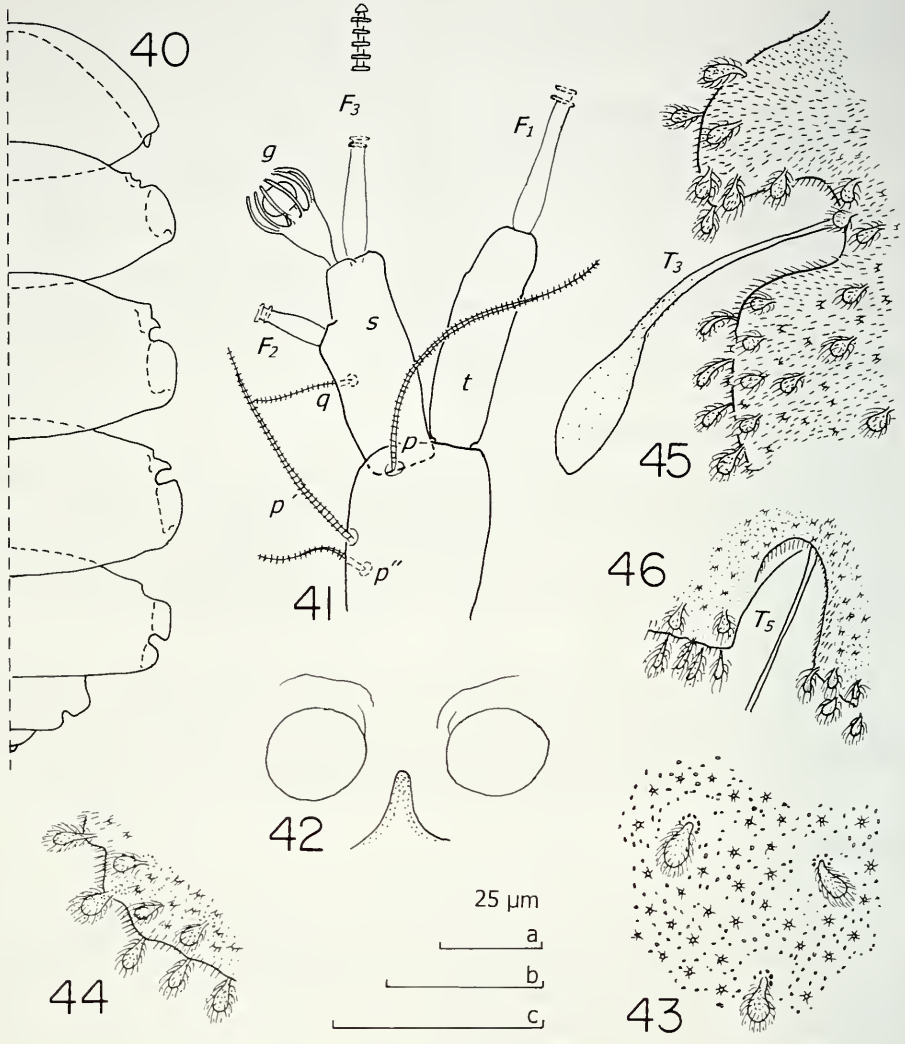
Description

Length. 0.92 mm.

Head. Setae hidden. Vertex: ve_1 rudimentary. Temporal organ, l = 60 µm.

Antennae. Cuticle of segments 1-4 almost glabrous, branches and flagellae glabrous, calyces small and glabrous. Chaetotaxy of segments 1-4: 2/2/2+*g*'/3. Setae cylindrical, annulate, *g*' small subhemispherical, segment 4, *p* = 42, *p*' = 35, *p*'' = 15 µm. Sternal branch with distinct anterodistal truncation, anterior margin = 24, posterior margin = 32, Ø of base = 9, maximum Ø = 12.5, upper Ø = 10, *q* = 20 µm. Anterior margin/length of *g* = 1.5; anterior margin/length of *q* = 1.2; anterior margin/posterior margin = 0.6; anterior margin/maximum Ø = 2.0; maximum Ø/Ø of base = 1.4. Tergal branch *t* somewhat fusiform, length = 37, Ø of base = 5, maximum Ø = 10 µm, length of *t*/maximum Ø = 3.7. Globulus *g* somewhat curved, stalk conical, length of *g* = 16, maximum Ø = 9.5 µm; ≈ 10 bracts, their length = 7-8 µm; capsule somewhat flattened, length = 5, Ø = 5.5 µm. Relative lengths of flagella (with base segments included): F_1 = 100, F_2 = ?, F_3 = 102. Lengths of base segments: bs_1 = 19, bs_2 = 9, bs_3 = 17 µm. The F_1 2.9 times as long as *t*, F_3 3.4 times as long as *s*.

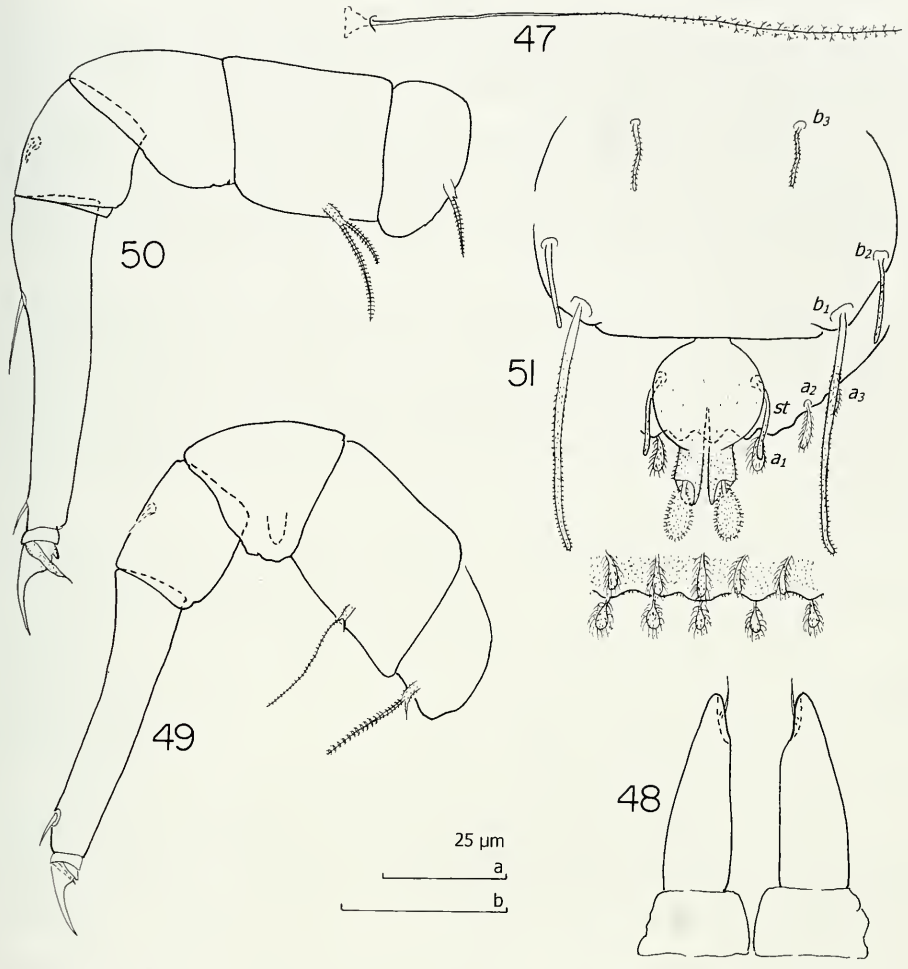
Trunk. Setae of collum segment hidden. Sternite process with narrow and rounded anterior end; appendages with low round caps, Ø = 25 µm.



FIGS 40-46

Sphaeropauropus reunionensis sp. n.. holotype 9(♀). 40, body, right half, tergal view; 41, left antenna, tergal view; 42, collum segment, sternal view (setae not drawn); 43, tergite I, central part; 44, tergite II, left posterolateral corner; 45, left part of tergite IV with T_3, tergal view; 46, left part of tergite VI with base of T_5, sternal view. Scale a: Fig. 42; b: Figs 41, 46; c: Figs 43-45.

Tergal sides of tergites with tuft-like setae, those on anterior part of tergite I broadly clavate with thick stalks. Cuticle between tuft-like setae with short rows of granules and very small protuberances covered with great many inward-curved oblique pubescence hairs. Tuft-like setae less clavate on lateral margins, sometimes with almost cylindrical stalks; laterosternal setae often more elongate, sometimes even



FIGS 47-51

Sphaeropauropus reunionensis sp. n., 47, 49-51, holotype 9(♀). 48, ad. 9(♂) from Sri Lanka, Kandy. 47, T_4; 48, genital papillae, anterior view; 49, leg 1; 50, leg 9; 51, pygidium, sternal view. Scale a: Figs 47-50; b: Fig. 51.

with thin pointed stalks. Short pubescence hairs at bases of setae arranged in two whorls, one of them very close to the base. Pubescence longest on lateral parts of tergites. The laterosternal furrows strongly bent inwards.

Bothriotricha. All bothriotricha but T_3 with simple very thin axes and short pubescence of straight almost erect hairs which are branched most distally. T_3 with thicker axes and distal fusiform swelling, the latter 0.3 of the length of bothriotrix; distal part of T_3 almost glabrous, middle part with dense and short pubescence of oblique hairs. Relative lengths of bothriotricha: $T_1 = 100$, $T_2 = 166$, $T_3 = 85$, $T_4 = 126$, $T_5 = ?$.

Genital papillae (described from the adult male from Kandy, Sri Lanka). 3 times longer than wide, with straight inner side, lateral side evenly rounded, glabrous, seta 0.2 of the length of papilla; base segment well developed, length almost 0.4 of the length of papilla.

Legs. All legs 5-segmented. Setae on coxa and trochanter of leg 9 furcate, their main branch annulate and pointed, secondary branch on coxal seta rudimentary, pointed, glabrous and on trochanter annulate and pointed; length of main branch ≈ 25 µm. More anteriorly these setae with rudimentary, pointed, glabrous secondary branch. On most anterior legs the seta on trochanter is much thinner than coxal seta.

Tarsi of legs 1 - 9 slender, tapering, somewhat bow-shaped, distal half almost cylindrical. Tarsi of leg 1 almost glabrous, 4.3 times as long as greatest diameter, those of leg 9 3.8 times as long as greatest diameter; tarsi of leg 9 with minute pubescence. Tarsus of leg 1 with only one distal tergal seta, about 0.1 of the length of tarsus; tarsus of leg 9 with two tergal setae, both tapering, pointed, glabrous, proximal one = 19, distal one = 7 µm, proximal seta almost 0.3 of the length of tarsus and 2.4 times as long as distal seta. A triangular pointed appendage on anterior side of femur of leg 1, length = 5 µm.

All legs with almost straight thin main claw and small setose anterior secondary claw. On leg 1 main claw = 16, secondary claw = 6 µm; on leg 9 main claw = 17, secondary claw = 11 µm; main claw not fully 0.3 of the length of tarsus in all legs.

Pygidium. *Tergum*. Posterior margin almost straight, serrate with 6 teeth/lobe. Setae subequal, tuft-like, but with shorter hairs than on the tergites. a_1 curved outwards, somewhat converging, a_2 and a_3 somewhat curved inwards; *st* cylindrical, blunt, somewhat S-shaped, almost glabrous. Index of tergal setae: $a_1 = a_3 = 7$, $a_2 = 6.5$; $a_1 - a_1 = 15$, $a_1 - a_2 = 30$, $a_3 - a_3 = 41$, $st = 12$, $st - st = 13$ µm; $st - st/a_1 - a_1 = 0.9$, $a_1/a_1 - a_1 = 0.5$, $a_1/a_1 - a_2 = 1.2$, $a_1 - a_1/a_2 - a_3 = 2.9$. Tergum glabrous.

Sternum. Posterior margin between b_1 straight; setae blunt, b_1 and b_2 subcylindrical, somewhat tapering, the former densely pubescent and the latter almost glabrous; b_3 cylindrical and with distinct pubescence. Index of sternal setae: $b_1 = 42$, $b_2 = 13$, $b_3 = 12$, $b_1 - b_1 = 37$, $b_2 - b_2 = 50$, $b_3 - b_3 = 25$, $b_1 - b_2 = 9$, $b_1/b_1 - b_1 = 1.1$, $b_1/b_2 = 3.2$, $b_2/b_1 - b_2 = 1.4$, $b_3/b_3 - b_3 = 0.5$.

Anal plate circular, with two short subcylindrical branches protruding backward from posterior margin. Branches with oblique posterolateral truncation on sternal side, each carrying one distal ovoid bladder-shaped appendage with distinct thin cylindrical stalk; these appendages twice longer than wide, 0.3 of the length of plate and carrying a distinct, dense pubescence of erect hairs. Circular part of plate almost glabrous, cylindrical appendages with dense, short pubescence.

Remarks. Two *Sphaeropauropus* specimens have been reported previously from Réunion (Remy, 1957a). They were assigned to the only species known at that time, *S. malayus* Silvestri (Silvestri, 1930). A comparison of Remy's description of his material with the results of my later redescription of the species (Scheller, 1998) indicates that two species are involved. There are distinct differences in the shape of the antennal globuli *g*, the claws and genital papillae and in the proportion $b_1/b_1 - b_1$ and $b_2/b_1 - b_2$.

Because the similarities between *S. reunionensis* and the other species of the genus are even weaker, the relationships of the species are not yet possible to trace.

GENERAL REMARKS ON DISTRIBUTION

Our knowledge of the taxonomy and distribution of the pauropod species is still very poor and therefore it is not surprising that about half of 38 species reported above are either new to science or have been collected outside their previously known range, sometimes far outside. So e.g., three species are here reported new to Switzerland and Greece, two countries, which are rather well investigated thanks to earlier collecting of zoologists from both Geneva (Scheller, 1976, 1977a, b, 1981a) and France (Scheller, 1973). Including the species reported here, we know now 29 species from Switzerland and 34 from Greece.

An earlier review of the occurrence of the genus *Samarangopus* (Scheller, 1996) shows a range from Madagascar in the west to New Caledonia in the east and from New South Wales in Australia in the south to Thailand in the north. However, the range seems to be much wider. It now includes Nepal (Scheller, 2000) and the present study shows that the genus occurs in continental Africa too.

Another genus, *Sphaeropauropus*, might have a similar range. It was long thought to be restricted to the Australasian islands of Java, the Philippines and Réunion, but it has now been discovered far outside. There are further reports from China (Zang & Chen, 1988), Thailand (Scheller, 1995) and Nepal (Scheller, 2000) and here the genus is reported from Sri Lanka too.

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